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EXAMINER	
VAUGHN JR, WILLIAM C	
ART UNIT	**PAPER NUMBER**
2143	9

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/539,927	Applicant(s) BELL ET AL.	
	Examiner William C. Vaughn, Jr.	Art Unit 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

WCV

DETAILED ACTION

1. This Action is in regards to the Amendment and Response received on 30 January 2004.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding **claims 1-8,** describes only a "method comprising ... adapted to ...generate filters". Rendering the claim(s) as reciting only an abstract idea. The claim(s) equate merely to a data structure per se, which does not serve a specific function, nor provide functionality to obtain any type of recited utility. Additionally, no storage medium for the data structure has been specified, e.g., embodiment on a computer readable medium. Further, any assumed computer readable medium containing the data structure(s) do not fall within one of the five categories of statutory subject matter, namely, new and useful process, machine, manufacture, composition of matter, or any new and useful improvement thereof. Claims to processes that do nothing more than solve mathematical problems or manipulate abstract ideas or concepts are more complex to analyze and are addressed below. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. Schrader, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process. See MPEP 2106(IV)(B)(1)(b). In practical terms, claims

define nonstatutory processes if they: – consist solely of mathematical operations without some claimed practical application (i.e., executing a "mathematical algorithm"); or – simply manipulate abstract ideas, e.g., a bid (Schrader, 22 F.3d at 293-94, 30 USPQ2d at 1458-59) or a bubble hierarchy (Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759), without some claimed practical application. Cf. Alappat, 33 F.3d at 1543 n.19, 31 USPQ2d at 1556 n.19 in which the Federal Circuit recognized the confusion: The Supreme Court has not been clear . . . as to whether such subject matter is excluded from the scope of 101 because it represents laws of nature, natural phenomena, or abstract ideas. See Diehr, 450 U.S. at 186 (viewed mathematical algorithm as a law of nature); Gottschalk v. Benson, 409 U.S. 63, 71-72 (1972) (treated mathematical algorithm as an "idea"). The Supreme Court also has not been clear as to exactly what kind of mathematical subject matter may not be patented. The Supreme Court has used, among others, the terms "mathematical algorithm," "mathematical formula," and "mathematical equation" to describe types of mathematical subject matter not entitled to patent protection standing alone. The Supreme Court has not set forth, however, any consistent or clear explanation of what it intended by such terms or how these terms are related, if at all. Certain mathematical algorithms have been held to be nonstatutory because they represent a mathematical definition of a law of nature or a natural phenomenon. For example, a mathematical algorithm representing the formula E = mc2 is a "law of nature" — it defines a "fundamental scientific truth" (i.e., the relationship between energy and mass). To comprehend how the law of nature relates to any object, one invariably has to perform certain steps (e.g., multiplying a number representing the mass of an object by the square of a number representing the speed of light). In such a case, a claimed process which consists solely of the steps that one

must follow to solve the mathematical representation of E = mc2 is indistinguishable from the law of nature and would "preempt" the law of nature. A patent cannot be granted on such a process. The invention, as presently claimed, clearly recited "a method, comprising ... adapted to... generate access filters", without being executed by hardware, but the invention as claimed, does not do anything, nor does the claimed invention actually impart any specific functionality to any device, including any assumed computerized equipment in the technological art.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a technological asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 112

4. **Claims 1-21** are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Applicant's specification lacks the proper teachings that are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). In claim 1, Applicant claims to "at least to remove duplicate policy rules and to form simplified policy rules. Applicant states that rules simplification reduces a policy group into a rule that preferable contains no irrelevant or redundant information. Applicant does not teach within the

specification that duplicate policy rules are removed. Applicant states on pages 8 and 9 that the information or data within the rules that is redundant or irrelevant is removed. Applicant has not provided the details that teach that the duplicate policy rules are removed. It would require undue experimentation for one of ordinary skill in the networking art at the time the invention was made to be able to remove redundant policy rules.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 1, 2, 9, 14, 15 and 18-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gai et al. (Gai), U.S. Patent No. 6,167,445 in view of Corl, Jr. et al. (Corl), U.S. Patent No. 6,473,763.

7. Regarding **claim 1**, Gai discloses the invention substantially as claimed. Gai discloses *a method, comprising: obtaining policy* rules (Gai teaches receiving policies at one or more policy servers within a network domain), [see Gai, abstract, Col. 5, lines 63-67 and Col. 6, lines 1-26] *and simplifying said policy rules, based on said simplified policy rules, creating an access control list adapted to configure a network device* (Gai teaches as tables are loaded and/or updated, a policy rule generating engine accesses information and creates one or more rules that can be transmitted to intermediate devices within a respective domain and that these rules include one or more access control lists), [see Gai, Col. 13, lines 60-67 and Col. 14, lines 1-22]; *and using the access control list to generate access filters* (Gai teaches that the access control

lists object that contains a list of criteria statements *(filters)* to be applied to the packets), [see Gai, Col. 3, lines 60-65 and Col. 15, lines 5-55]. Eventhough, Gai does disclose simplified policy rules. However, Gai does not explicitly disclose at least to remove duplicate policy rules.

8. In the same field of endeavor, Corl discloses (system, method and computer program for filtering multi-action rule set). Corl discloses at least to remove duplicate policy rules and to form simplified policy rules [see Corl, Col. 10, lines 21-33 and Col. 12, lines 36-51].

9. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Corl's teachings of a system, method and computer program for filtering multi-action rule set with the teachings of Gai, for the purpose of eliminating or removing duplicate subtrees of a filter in order to facilitate the reduction in cost for storage of the decision tree [see Corl, Col. 12, lines 36-46]. By this rationale **claim 1** is rejected.

10. Regarding **claim 2**, Gai-Corl further disclose *further comprising expanding the policy rules into value groups that represent conditions occurring in the network device associated with the policy rules* (Gai teaches that the policy rule generating engine creates [see Gai, Col. 15, lines 5-54, Col. 16, lines 1-43 and Col. 17, lines 23-47]. By this rationale **claim 2** is rejected.

11. Regarding **claim 9**, Gai-Corl further discloses *a computer network* [see rejection of claim 1, supra], *comprising: a first device adapted to disseminate policy rules in the network* [see Gai, Col. 14, lines 57-67 and Col. 15, lines 1-4]; *and a second device adapted to receive the policy rules disseminated on the network by the first device* (Gai teaches that intermediate devices receives rules from the policy rule generating engine), [see Gai, Col. 14, lines 63-67] *and adapted to: simplifying said policy rules, at least to remove duplicate policy rules and to form*

simplified policy rules [see rejection of claim 1, supra] *based on policy rules, create an access control list adapted to configure the at least one device from the filters* [see Gai, Col. 14, lines 63-67, Col. 15, lines 1-16, Col. 16, lines 44-67 and Col. 17, lines 1-2]; *and to use the access control list to generate access filters from the translated policies* [see rejection of claim 1, supra]. The motivation that was used in the combination of claim 1, applies equally as well to claim 9. By this rationale **claim 9** is rejected.

12. Regarding **claim 14**, Gai-Corl further discloses *an article comprising a computer-readable medium which stores computer executable instructions for managing policy rules on a network, the instructions causing a computer to: simplifying said policy rules, at least to remove duplicate policy rules and to form simplified policy rules* [see rejection of claim 1, supra] *based on policy rules, create an access control list adapted to configure the devices from the simplified rules* [see Gai, Col. 13, lines 60-67 and Col. 14, lines 1-22]; *and use the access control list to generate access filters* (Gai teaches access control lists object contains a list of criteria statements to be applied to packets), [see Gai, Col. 15, lines 20-35]. The motivation that was used in the combination of claim 1, applies equally as well to claim 14. By this rationale **claim 14** is rejected.

13. Regarding **claim 15**, Gai-Corl discloses further *comprising instructions to expand the policy rules into value groups, wherein value groups represent conditions occurring in the network device associated with the policy rules* [see rejection of claim 2, supra]. By this rationale **claim 15** is rejected.

14. Regarding **claim 18**, Gai- Corl further discloses *a network device, comprising: a configurable management process located on the device having instructions to: receive the*

policy rules in a network device; translate the policy rules to a set of simplified rules [see Gai, Col. 13, lines 60-67 and Col. 14, lines 1-22] *at least removing duplicate parts of said rules to form said simplified rules* [see rejection of claim 1, supra]; *create an access control list adapted to configure the network device from the simplified rules* [see Gai, Col. 14, lines 56-67 and Col. 15, lines 1-16]; *and use the access control list to generate access filters* (Gai teaches access control lists object contains a list of criteria statements to be applied to packets), [see Gai, Col. 15, lines 20-35]. By this rationale **claim 18** is rejected.

15. Regarding **claim 19**, Gai-Corl discloses *further comprising a connection to an external network* (Gai teaches the Internet as the external network), [see Gai, Col. 1, lines 12-40]. By this rationale **claim 19** is rejected.

16. Regarding **claim 20**, Gai-Corl further discloses *wherein the external network is a local area network* [see Gai, Col. 1, lines 12-40]. By this rationale **claim 20** is rejected.

17. Regarding **claim 21**, Gai-Corl further discloses *wherein the external network is the Internet* [see Gai, Col. 1, lines 12-40]. By this rationale **claim 21** is rejected.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. **Claims 3-8, 10-13, 16, and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gai-Corl as applied to claims 1, 2, 9, 14 and 15 above, and further in view of Flint et al. (Flint), U.S. Patent No. 6,453,419.

20. Regarding **claim 3**, Gai-Corl discloses the invention substantially as claimed. Eventhough, Gai-Corl does imply certain conditions that are excluded. However, Gai-Corl does not explicitly disclose further comprising excluding conditions that would otherwise be implied by the rules.

21. In the same field of endeavor, Flint discloses (e.g., system and method for implementing a security policy). Flint discloses *further comprising excluding conditions that would otherwise be implied by the rules* [see Flint, Col. 8, lines 58-64].

22. Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Flint's teachings of a system and method for implementing a security policy with the teachings of Gai-Corl, for the purpose of providing a method of presenting and managing access control rules which can easily respond to changes in the number of networks and users [see Flint, Col. 2, lines 1-3]. By this rationale **claim 3** is rejected.

23. Regarding **claim 4**, Gai-Corl and Flint discloses *further comprising resolving inconsistent conditions that result from expanding the policy rules and excluding the policy rule conditions* [see Gai, Col. 15, lines 14-34]. By this rationale **claim 4** is rejected.

24. Regarding **claim 5**, Gai-Corl and Flint discloses *further comprising creating at least one array of included or excluded conditions from the policy rules* (Flint teaches an array of condition for users that apply to policy rules), [see Flint, Col. 8, lines 43-67]. The motivation

that was applied to claim 3 above applies equally as well to claim 5. By this rationale **claim 5** is rejected.

25. Regarding **claim 6**, Gai-Corl and Flint further discloses *wherein generating the access filters further comprises: adding filters adapted to control access of a device to another component in the network* [see Gai, Col. 3, lines 65-67]. By this rationale **claim 6** is rejected.

26. Regarding **claim 7**, Gai-Corl and Flint discloses *further comprising generating deny filters by combining the at least one array of excluded conditions and the at least one array of included conditions* [see rejection of claim 6, supra]. By this rationale **claim 7** is rejected.

27. Regarding **claim 8**, Gai-Corl and Flint discloses further *comprising generating permit filters by combining the at least one of the arrays of the included conditions with the remaining arrays of included conditions* [see Flint, Col. 8, lines 43-67]. The motivation that was used to combine claim 3, applies equally as well to claim 8. By this rationale **claim 8** is rejected.

28. Regarding **claim 10**, Gai-Corl and Flint further discloses *wherein the second device further comprises a permit filter* [see Flint, Col. 4, lines 12-66]. The motivation that was used to combine claim 3, applies equally as well to claim 10. By this rationale **claim 10** is rejected.

29. Regarding **claim 11**, Gai-Corl and Flint discloses *further comprising a plurality of data-storage devices* [see Gai, Col. 9, lines 58-62] *adapted to permit access to the second device* [see Flint, Col. 4, lines 12-66]. The motivation that was used to combine claim 3, applies equally as well to claim 10. By this rationale **claim 11** is rejected.

30. Regarding **claim 12**, Gai-Corl and Flint further discloses *wherein the second device further comprises a deny filter* [see Flint, Col. 4, lines 12-66]. The motivation that was used to combine claim 3, applies equally as well to claim 12. By this rationale **claim 12** is rejected.

31. Regarding **claim 13**, Gai-Corl and Flint discloses *further comprising a plurality of data-storage devices adapted to deny access to the second device* [see Flint, Col. 4, lines 12-66]. The motivation that was used to combine claim 3, applies equally as well to claim 13. By this rationale **claim 13** is rejected.

32. Regarding **claim 16**, Gai-Corl and Flint discloses *wherein the instructions to translate the policy rules further includes instructions to exclude conditions that would otherwise be implied by the policy rules* [see rejection of claim 3, supra]. By this rationale **claim 16** is rejected.

33. Regarding **claim 17**, Gai-Corl and Flint discloses *wherein the instructions to translate the policy rules further includes instructions to resolve inconsistent conditions that result from expanding the policy rules and excluding the policy rule conditions* [see Flint, Col. 10, lines 20-67]. The motivation that was used to combine claim 3, applies equally as well to claim 17. By this rationale **claim 17** is rejected.

Response to Arguments

34. Applicant's arguments include the failure of previously applied art to expressly disclose, "simplifying said policy rules at least to remove duplicate policy rules and to form simplified policy rules (See Response, Paper#7, page 8). It is evident from the detailed mappings found in the above rejection(s) that Gai-Corl and Flint disclosed this functionality [see Corl, Col. 10, lines 21-33 and Col. 12, lines 36-51). Further, it is clear from the numerous teachings (previously and currently cited) that the provision for "simplifying said policy rules at least to remove duplicate policy rules and to form simplified policy rules", was widely implemented in the networking art.

Thus, Applicant's arguments drawn toward distinction of the claimed invention and the prior art teachings on this point are not considered persuasive.

35. Again, it is the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to continue to claim as broadly as possible their invention. It is also the Examiner's right to continue to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique [see pages 6-7]. As it is extremely well known in the networking art as already shown by Gai-Corl and Flint as well as other prior arts of records disclosed, "obtaining policy rule, and simplifying said policy rules, at least to remove duplicate policy rules and to form simplified policy rules" as well as other claimed features of Applicant's invention. Thus, it is clear that Applicant must submit amendments to the claims in order to distinguish over the prior art use in the rejection that discloses different features of Applicant's claim invention. It is suggested that Applicant expound in more detail the conditions as well as group expansion and group exclusion [see pages 6 and 7 of Applicant's specification].

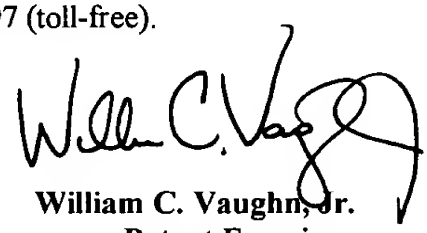
36. Failure for Applicant to significantly narrow definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant intends broad interpretation be given to the claims. The Examiner has interpreted the claims with scope parallel to the Applicant in the response, and reiterates the need for the Applicant to more clearly and distinctly, define the claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Vaughn, Jr. whose telephone number is (703) 306-9129. The examiner can normally be reached on 8:00-6:00, 1st and 2nd Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William C. Vaughn, Jr.
Patent Examiner
Art Unit 2143
06 April 2004